CADEO
(Controller Assistence for Departure Optimisation)

Fig.: Runway Controller Display
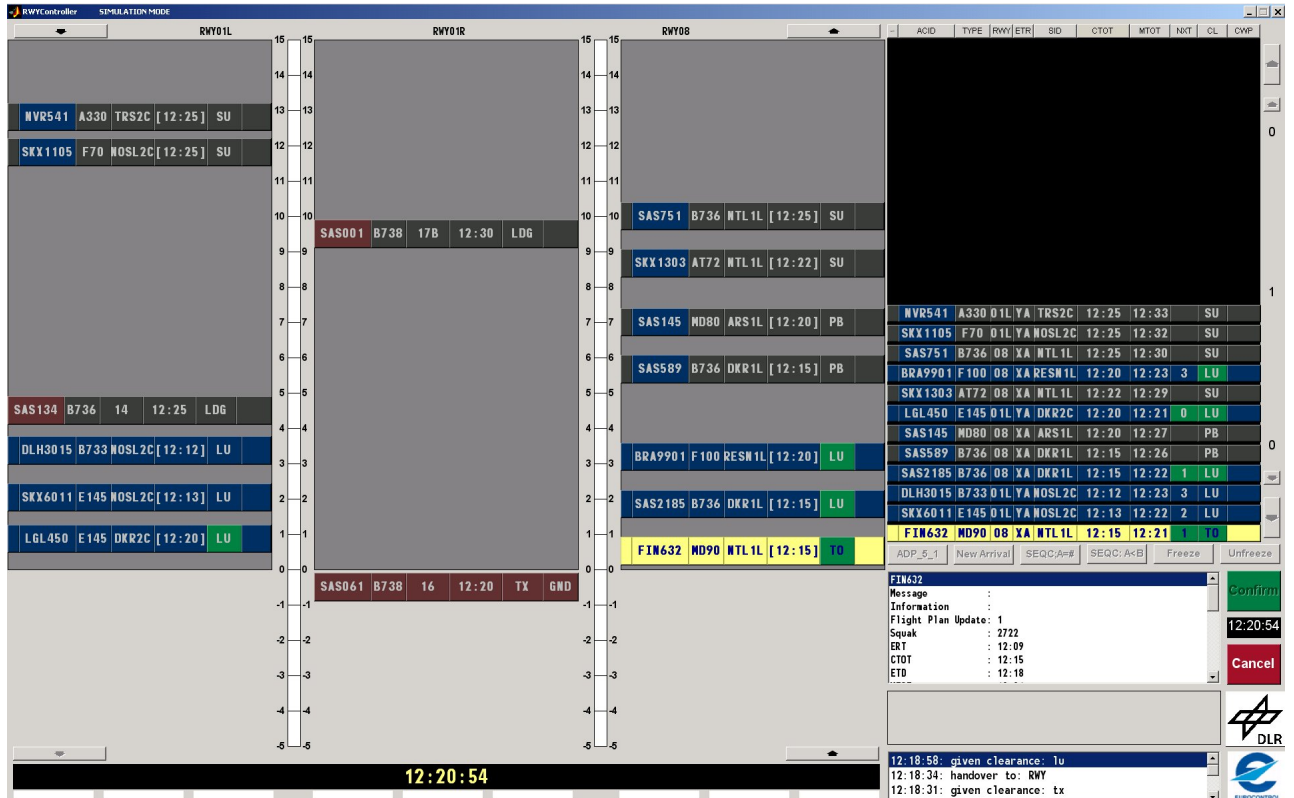
The number of passengers rises enormously and the development of air freight also continues to expand. Overcrowded airports with long waiting times at peak traffic hours are already a common phenomene today.

The gap between the available runway capacity at international airports and the rising air traffic demand is steadily increasing. Delays are the inevitable consequence. The resulting environmental impact (noise and engine emissions) and economic inefficiencies (unnecessary fuel burn) generate a growing need to reduce such delays.

The **Institute of Flight Guidance, German Aerospace Center (DLR)** is developing operational prototypes:

• to assist controllers in handling growing departure and arrival traffic
• to help controllers to make an optimum use of the available airport capacities
• to reduce unnecessary delays
• to assist controllers to harmonise the operations of the different working positions.

CADEO, a departure traffic management system, has been developed at the Institute of Flight Guidance as advancement of the EUROCONTROL-DLR DMAN.

CADEO is a decision-aiding system planning an optimal departure sequence. The purpose of CADEO is:

• to assist the controllers to achieve maximum runway capacity
• to maximise slot compliance
• to minimise taxi-out delays.

The predictability and reliability of departures will improve.

Simulation trials showed that CADEO reduces the controllers' workload.

CADEO is able to handle complex configurations with mixed mode operations and interfering runways.

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